PesticideNOTES

A publication of the Washington State Department of Agriculture Pesticide Management Division

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Clopyralid residues in compost prompt new rules

In an effort to prevent further contamination of compost, the Washington State Department of Agriculture (WSDA) adopted a final rule prohibiting the use of clopyralid-containing products on turf and lawns, except golf courses, and designating certain uses as state restricted use.

Clopyralid is a broadleaf herbicide that can cause irregular growth symptoms in sensitive plants, such as tomatoes and beans. While levels as low as 3 parts per billion in compost can cause damage to sensitive plants, the herbicide is not considered hazardous to humans or other mammals. Clopyralid is the active ingredient in many turf and lawn products such as Confront®, Millenium-ultra® and Tru-power®. Agricultural products with this chemical include Curtail®, Curtail-M®, Stinger® and Lontrel®. Transline® and Redeem R & P® are clopyralid-based products used for noxious weed control.

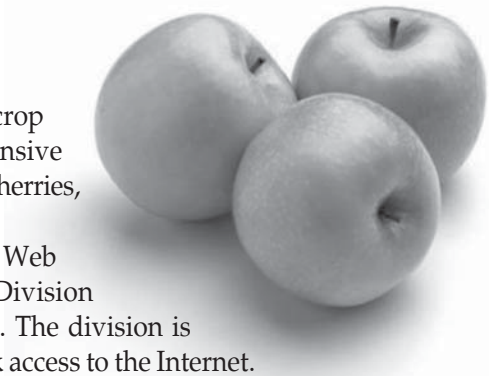
Agriculture inspectors first detected clopyralid in compost in Eastern Washington in spring 2000. Repeat testing showed that clopyralid residues persisted in samples collected from processing plants in Spokane and Pullman. As a result, in fall 2001 WSDA pesticide management staff randomly sampled compost from nine other processing facilities across the state. Residues showed up in samples taken from all of the facilities tested, either in the finished compost or in the incoming feedstocks.

While most of the compost issues apparently stem from urban recycling programs for grass clippings, farmers have been encouraged to recognize that their pesticide-treated crops could also play a role in the contamination of compost. For example, animal bedding and straw from the September 2001 Puyallup Fair tested positive for clopyralid. Growers applying these products to small grains need to realize that straw baled and hauled off their fields might eventually find its way into a municipal compost system. And, as the earlier number indicates, it does not take much contaminated straw to taint thousands of cubic yards of finished compost.

For its part, WSDA has been actively seeking public comment in order to develop a final rule, effective June 28. The rule:

- makes products containing clopyralid state restricted use pesticides (RUPs) when labeled for use on lawns and turf, cereal grains and grass grown for hay. RUPs can only be sold by licensed dealers to certified applicators.
- prohibits the use of pesticides containing clopyralid on lawns and turf, EXCEPT on golf courses if no grass clippings, leaves or other vegetation are removed from the site and sent to composting facilities that provide product to the public.

WSDA requests public comment on crop sheets



WSDA is seeking public comment on the format of proposed crop sheets. The crop sheets provide basic information about particular pesticides used on labor-intensive agricultural crops in Washington. Initially, information will be developed for apples, cherries, asparagus and hops in both English and Spanish.

Current crop sheets may be downloaded from the Internet by visiting WSDA's Web site, *www.wa.gov/agr/pmd/pesticides/Crop_Sheets.htm*. The Pesticide Management Division encourages growers to print copies and distribute crop sheets to their employees. The division is particularly interested in comments from migrant workers and others who may lack access to the Internet. Please send your comments to Ann Wick, WSDA, P.O. Box 42589, Olympia, WA 98504-2589 or by email: *awick@agr.wa.gov*.

In This Issue:

Letter from Deputy Director Bill Brookreson

Soon our nation will be memorializing a one-year anniversary of an event that forever has altered the way Americans view personal safety and security in their communities.

I'm referring to the terrorist acts of Sept. 11, 2001. On that day, we realized that this nation's geographic location in the world and status as a superpower could not prevent acts of horrific violence on American soil. Unlike any other American tragedy, this event has compelled us to redefine the notions of protection and safety. We learned that the security of a nation, a state and its people is no longer a purely territorial matter. We know now that protection cannot be limited to the defense of national interests, geography or infrastructures at the hands of presidential cabinet officers, members of the military and civilian police.

When airplanes can be made into missiles and mail into carriers of deadly anthrax, it becomes unequivocally clear that protecting our community, state and country from harm is a matter of solidarity and personal responsibility.

I propose that people working in the agriculture industry do their part to ensure that everyday tools – pesticides, fertilizers, ground and aerial application equipment – are not mishandled and used to contaminate water supplies, spread deadly viruses, or as with fertilizers and the Oklahoma City tragedy, to create bombs.

Agricultural producers can take the following precautions to protect their communities:

- **Review storage procedures**
  Take the time to review highly toxic materials on the premises, and know who has access to pesticides and fertilizers. Make sure your products are securely stored, ideally under lock and key;

- **Review whole farm security**
  However small the risk, the potential for someone to contaminate your crops exists. Identify practical steps to improving security on your farm;

- **Dispose of unused pesticides**
  If you have unused or unusable pesticides, contact WSDA to find out the date of the next waste pesticide collection; and

- **Report suspicious activity**
  If you notice unfamiliar persons or familiar persons engaging in suspicious behavior on the farm, report it to law enforcement.

As potential acts of violence go, we've learned that potential terrorists have considered planes that apply pesticides as a way to harm civilian populations. Through the PNW Security Task Force (see related article on page 3), we have met with representatives of aerial applicators to discuss improved security for their planes.

I urge you to take an active and diligent role in making your businesses a more secure place. Take the utmost safety precautions in carrying out the pesticide-related work that you perform and, by doing so, make our communities a safer place to live.

WSDA *Pesticide*NOTES is published by the Washington State Department of Agriculture Pesticide Management Division to keep pesticide users and others informed about changes in pesticide laws, issues and decisions that affect them. Your feedback and ideas are welcomed and encouraged. Write to us at:

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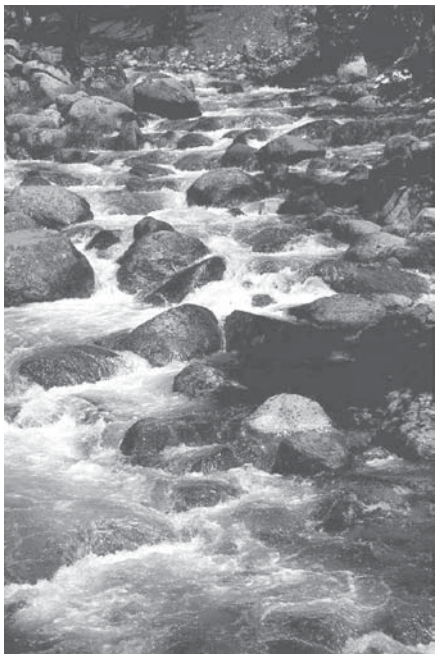
To obtain extra copies, contact Heike Stough at (360) 902-1900 or *hstough@agr.wa.gov*

Ecology introduces new pesticide permit requirement

The Washington State Department of Ecology is developing a permit process for aquatic pesticide use in Washington State waters, including but not limited to irrigation ditches, lakes, rivers, estuaries and wetlands. The new permits are the result of a year-old court decision that subjects aquatic pesticide applications to the provisions of the federal Clean Water Act (CWA).



Ecology officials consider the new and enforceable permits under the National Pollutant Discharge Elimination System (NPDES) one avenue to address the state's water quality concerns. An NPDES permit is required for:

- waste-water discharges (in this case a pesticide) to surface waters; or,
- activities that have a significant potential to impact surface waters.

The CWA created the national permit system for the purpose of regulating wastewater discharges from point sources (i.e. sewage treatment plants) to surface waters (lakes, streams, wetlands, etc.). The CWA sets a national goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Fulfilling this mandate, in part, means Ecology must seek ways to address the discharge of pesticides into waters of the state.

As of June 7, Ecology had issued five NPDES permits:

- Fish Management
- Irrigation System Maintenance
- Mosquito Control
- Noxious Weed Control
- Oyster Growers.

The NPDES permit for Nuisance Plant and Algae was scheduled to be issued later in June.

Long before the March 2001 Ninth District Court decision required the NPDES permit, Ecology administered national discharge permits for wastewater treatment plants and the like. In general, a wastewater discharge permit places limits on the quantity and concentrations of contaminants that may be discharged. Permits may require wastewater treatment or impose operating or other conditions, including monitoring, reporting, and spill prevention planning. Ecology issues both individual permits for a specific activity or facility as well as general permits.

To learn more about the permit process and to download an application, visit *www.ecy.wa.gov/programs/wq/herbicides/npdes_develp.html*.

For more information, contact Kathleen Emmett, Washington State Department of Ecology, P.O. Box 47600, Olympia, WA 98504-7600. Call Ms. Emmett at (360) 407-6478, or e-mail, *kemm461@ecy.wa.gov*.

Security task force sets up clearinghouse, develops guidelines

Since the Sept. 11 terrorist attacks, a security task force of agrichemical industry professionals has met twice to review ways the agricultural community can better monitor security concerns. Representatives of the task force include fertilizer and pesticide manufacturers, urban and aerial applicators, retail dealers and the Idaho, Oregon and Washington departments of agriculture.

The meetings have resulted in participants having an increased understanding of how to evaluate security risks and take reasonable, affordable steps to enhance the safety of their businesses. Washington aerial pesticide applicators developed and distributed a list of best management practices for their industry. The fertilizer and agrichemical industry distributed a security issues white paper provided by their national affiliates. The Far West Agribusiness Association volunteered to be a clearinghouse and distributor for security-related information.

For further information, contact Scott McKinnie, Far West Agribusiness Association, at (509) 465-5055.

Agriculture welcomes a new director

On June 1, former Senator Valoria Loveland joined the Washington State Department of Agriculture (WSDA) as agency director. Gov. Gary Locke appointed Loveland to the position in April.

"I am honored and delighted to accept this position," Loveland said. "Preserving Washington's agricultural sector is one of the governor's highest priorities, and I look forward to leading a great department."

Loveland, 58, most recently worked for Nuvotec in Richland as director of government relations. Between 1992 and 2001, Loveland served as a state senator representing the 16th legislative district. While in the Senate, she provided fiscal leadership as chairwoman of the Ways and Means Committee. Before her career in the state senate, Loveland held numerous public posts including Franklin County treasurer, chair of the state's Public Disclosure Commission, and member of the Nuclear Waste Advisory Council.

"Agriculture in our state is facing a number of challenges, which Valoria is well suited to take on," Locke said. "As a lifelong resident of Eastern Washington, she understands the burdens facing the agricultural community. With experience as a key member of our Legislature, she understands public policy and will work well with state decision makers. Valoria's leadership will be a great asset to the Department of Agriculture."

Bill Brookreson, who filled in as acting director after Director Jim Jesernig stepped down last fall, has resumed his duties as deputy director.

"Bill Brookreson did a terrific job as acting director of the department," Locke said. "I am pleased that he has agreed to stay on as deputy director."

WSDA carries out more than 25 distinct programs that support the agricultural community and promote consumer and environmental protection. The agency has about 500 full-time employees and employs many others seasonally or intermittently to work in inspection and insect detection programs.

Pesticide notification requirements take effect for schools, day cares

A new law effective July 1 and enforced by the WSDA, directs schools and day-care centers to give parents and school staff at least 48 hours notice prior to the application of pesticides on school grounds. The law requires public schools and licensed day-care centers to notify parents and employees of planned pesticide use and to post signs where chemicals have been applied.

The notification requirements consist of the following components:

ANNUAL NOTIFICATION

All public schools and licensed day-care centers must provide an annual, written notification to parents/guardians and school employees of the school's pest control policies and methods. The information must include a description of the posting and pre-notification requirements.

PRE-NOTIFICATION

A system must be in place that, at a minimum, notifies interested parents or guardians and school employees at least 48 hours before a pesticide application. Notification must state the location, intended date and time of the application, the pest to be controlled and the name and telephone number of a contact person at the school or day-care center.

POSTING

The law requires posting of notices related to all pesticide applications at the time of the application. The posted notice must remain in place a minimum of twenty-fours hours. Posting requirements are different for pesticide applications made to school grounds (outdoors) and applications to school structures (indoors).

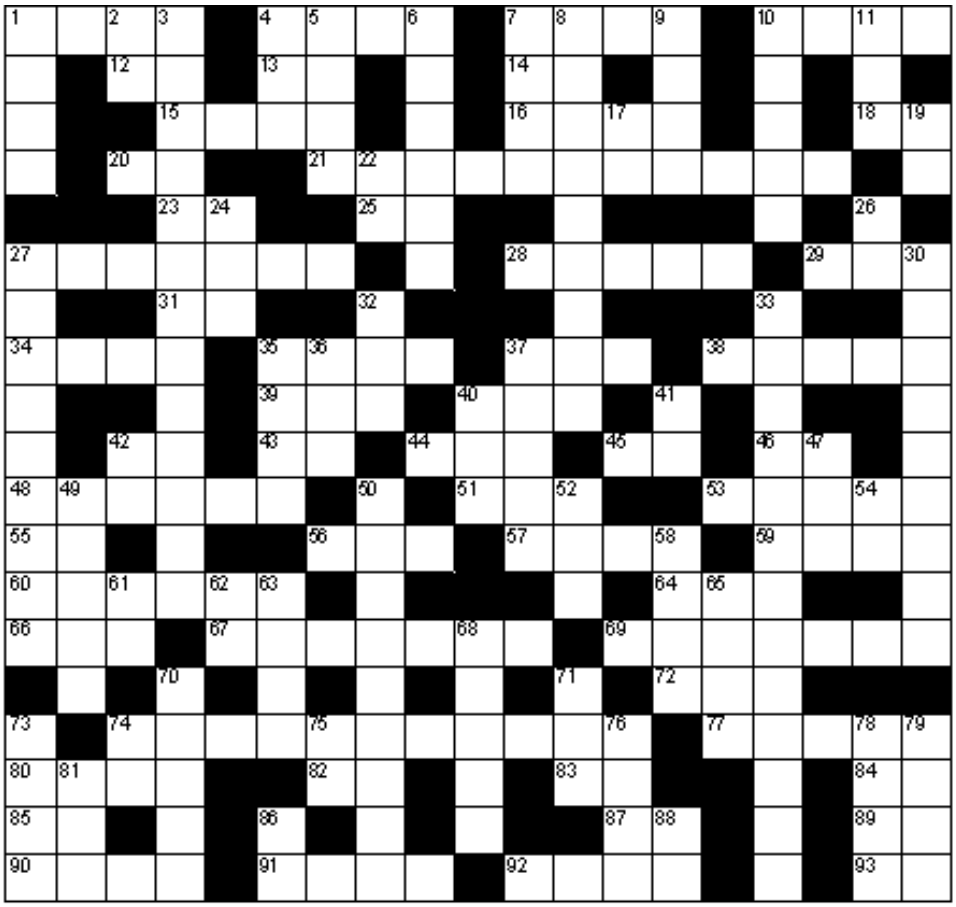
RECORDS

In addition to WSDA's record keeping requirements, public schools and day-care centers must keep an annual summary of pesticide applications. These records must be readily available to interested persons.

Agriculture officials hope that compliance with the new law will provide a greater level of protection for students and employees of public schools and licensed day-care centers. A manual, ***Compliance Guide for the Use of Pesticides at Public Schools and Licensed Day-Care Centers***, was developed by WSDA to help schools and day cares gain a better understanding of the law.

For further information on the law or to receive a copy of the manual, contact Compliance Services toll-free at (877) 301-4555 or visit WSDA's Web site at *www.wa.gov/agr/pmd*.

Back to basics crossword puzzle!



ACROSS

1 Multiple nozzles can be found here
4 Primary pesticide enforcement agency in Washington
7 Spray confined to small target
10 43,560 sq. ft. equals 1 ___
12 Northeastern state
13 The higher this is the more concentrated the pesticide
14 Manufacturer of farm equipment
15 Wheeled conveyance
16 A diet will make you ____
18 Structural pest inspector license abbr.
23 Liquid measure
25 License category for controling roots in sewers
27 Tracked measurement of feed or fertilizer
28 Less volatile form of 2,4-D
29 Required for WDO inspection reports
31 Opposite of down
34 ____ with your legs not your back
35 Shortened sp. of fertilizer granule
37 Milk ___ honey
38 Non active ingredients
39 At picnics
40 Famous fair in Canada
42 Atomic symbol for titanium
43 Abbreviation for the Peach State
44 Plants require in large amounts
45 One type of fomulation
46 Emulsifible solution
48 Stickers make a product __ to the plant
51 Plant disease has wiped out many of these
53 Pesticide ___ recorded on pesticide application record
55 Forest Practices Act is regulated by D__
56 Some spray mixtures may clog this
57 This newsletter is of ___ proportions
59 Identical
60 Alfalfa seed pollinated by leaf __ bees
64 Period of time to stay out of treated area
66 Federal agency regulating pesticides
67 Being ___ may result in sunburn
69 Type of PPE
72 Tiger Woods is a member
74 Not a friend to rodents
77 Plant parts
80 Botanical insecticide extract
82 The higher this is the more concentrated the pesticide
83 Texas abbreviation
84 Constituent of soil
85 Country in North America
87 Often wind is lightest early in the ___
89 Herbicide class
90 Slug ___
91 Compatibility agents may prevent this
92 Can be centrifugal or piston
93 Street abbreviation

DOWN

1 In a non-packaged form
2 Southern neighbor
3 Plants require in small amounts
4 Managing pests can seem like one
5 Labels specify this
6 Hive
7 Grain elevator
8 Insect hormone
9 Add to spray mixture to see where you have sprayed
10 May be specified for when mixing
11 A pesticide license is required to purchase this
17 College degree
19 Invert emulsion
22 Abbreviation for versus
24 What you want to do to target pests
26 Emulsifiable concentrate
27 Following label and pre-harvest interval keeps within
30 NPK and others
32 Louse egg
33 Possible consequence of a pesticide misuse
35 This puzzle is printed on one
36 Genetic material in plants
37 Work boots help protect this
40 Boots, gloves, goggles, etc.
41 Chemical pesticide family
42 Thorium symbol
47 Cutting tool
49 Peach, plum or cherry
50 Using a pesticide contrary to labeled instructions
52 Unit of measure often on application record
54 Soldier
58 Cultivated plants
61 Helps in classroom
62 Used interrogatively?
63 _____ per acre may be given on label
65 Often a difficult stage of an insect to control
68 May be specified under PPE
70 Syrup of ipecac will make you ____
71 Banned insecticide
73 Ignore
74 Concerning
75 Sodium symbol
76 Attend recertification classes, or every 5 years take the _____.
78 Pesticide license category S deals with this
79 Cereal grass disease
81 Endangered Species Act
86 Valoria Loveland is Washington's new Director of ____.
88 Army law enforcer

PUZZLE SOLUTION ON PAGE 24

Pesticide licensing requirements ease up for forestry applications

Earlier in the year, Gov. Gary Locke signed legislation that gives pesticide businesses greater flexibility in the number of employees who must obtain a state pesticide license. Without compromising safety or environmental protection, crews of applicators can effectively control weeds in the rough forested terrain without constant oversight.

The revised Pesticide Application Act (17.21 RCW) allows commercial forestry applicators to provide on-the-job supervision of non-licensed sprayers without everpresent audio and visual contact. However, a certified applicator (licensed) must be physically present, readily available to assist sprayers, and on hand to observe pesticide mixing and loading.

Specifically, the new law redefines "direct supervision" for commercial forest applications. The law *only* applies when "general use" herbicides are used through non-motorized equipment, and it *only* applies to forestry applications. The definition of "direct supervision" for all other types of commercial pesticide applications remains the same.

Forest applications are those made to agricultural land used to grow trees for the commercial production of wood or wood fiber for products, such as dimensional lumber, shakes, plywood, poles, paper and cardboard. Pesticide applications to conifer trees harvested and sold as Christmas trees and decorative boughs are not considered forest applications.

For further information, contact WSDA's Forestry Specialist Paul Figueroa at (360) 902-2068 or *pfigueroa@agr.wa.gov*.

This forestry site allows licensed applicator constant visual and audio contact with workers.

This dense forest site makes constant visual and audio contact nearly impossible.

Revised chemigation and fertigation rules take effect

Growers who apply pesticides or fertilizers through an irrigation system should review the chemigation and fertigation rules. The revised rules, effective November 2001, are available on the department's Web site, *www.wa.gov/agr/pmd/pesticides/ChemFert_rules.htm* or by contacting Compliance Services, (877) 301- 4555.

To ensure compliance with the chemigation and fertigation rules, WSDA staff advises growers to use technical checklists available on the Web site. The checklists provide an overview of the rules' major provisions, but do not substitute for the rules. Starting in 2002, irrigation systems found to be out-of-compliance during a routine inspection or investigation will be cited.

As a free service, technical staff is available to inspect irrigation systems and help growers determine if they meet requirements for the backflow safety device and application tank. If a grower's use of alternate technology meets the intent of the law, WSDA staff has the authority to waive some requirements outlined in the rules (WAC 16-202-1001, WAC 16-202-2001).

Please feel free to consult WSDA technical staff, particularly before making costly, and possibly, unnecessary modifications. For more information, contact Tom Hoffmann (509) 766-2574 and Byron Fitch (509) 766-2575.

Labor & Industries ordered to create rule for mandatory blood testing of pesticide handlers

By direct order of the state Supreme Court, the Department of Labor and Industries has begun a new rulemaking process for mandatory cholinesterase monitoring of agricultural workers who handle certain pesticides. Cholinesterase (pronounced ko-li-nes-ter-ace) is a critical enzyme needed for the proper functioning of the nervous system, and it may be inhibited if pesticides of a certain class are inhaled or ingested.

In 1997, pesticide handlers asked Labor and Industries to adopt a mandatory cholinesterase-monitoring rule. Instead, the department adopted a voluntary guideline. In February of this year, the state Supreme Court ruled the agency's refusal to develop a mandatory rule unreasonable. Five years ago, Labor and Industries realized a significant health risk existed from handling certain pesticides, and a feasible method to reduce that risk also existed.

Particular chemical classes of pesticides, such as organophosphates and carbamates, work against undesirable insects by interfering with, or 'inhibiting' the enzyme *acetyl cholinesterase*. While the effects of cholinesterase-inhibiting products are intended for insect pests, these chemicals can also be poisonous to people. Anyone exposed to these pesticides can develop lowered cholinesterase levels. The purpose of regular monitoring is to alert pesticide handlers to any change in the level of this essential enzyme before it can cause serious illness. Fortunately, the breakdown of cholinesterase can be reversed. Cholinesterase levels eventually return to normal if pesticide exposure is stopped.

Labor and Industries plans to work closely with stakeholders from labor advocacy groups, employer/grower representatives and other government agencies affected by the proposed new rule. The department plans to host public hearings prior to the final adoption of a rule.

If you are interested in participating in the rulemaking process, contact Cindy Ireland, Project Manager, (360) 902-5522 or write Department of Labor and Industries; WISHA Services Division, PO Box 44620, Olympia, WA 98504-4620.

Waste pesticide collection schedule for fall 2002

Collection Site Nearest City	Collection Event Date	Customers Sign up by:	Customer Sends Inventory to WSDA by:
Coupeville	September 16	August 7	August 15
Mount Vernon	September 17	August 7	August 15
Seattle	September 18	August 7	August 15
East King County	September 19	August 7	August 15
Longview	September 20	August 7	August 15
Prosser	October 15	September 10	September 18
Orondo	October 17	September 10	September 18

Note to growers: Spring 2003 pesticide disposal events will be scheduled by late fall 2002. Annual events normally occur in the Columbia Basin, Prosser, Puyallup, Seattle, Spokane, Wenatchee and Yakima areas. Events in other areas of the state are scheduled to provide at least one disposal opportunity per region each year. The disposal sites are rotated among various communities to provide customers with a relatively close event every two or three years.

The schedule of events is posted on the WSDA Web site, at *www.wa.gov/agr/pmd/pesticides/collection.htm*. This site also links to the NW Ag Plastics' pesticide container recycling program and 1-800 Cleanup that links to local household and small business hazardous waste disposal opportunities.

Reminder: Plastic pesticide container recycling is available through Northwest Ag Plastics. This company provides a free mobile recycling service for the agricultural industry. To view their collection schedule or to learn more about container preparation, visit *www.nwagplastics.com* or call (509) 965-6809.

Case Files: A Monitor® 4 pesticide drift investigation

This story is based on an actual department investigation. The department acknowledges and appreciates that the majority of pesticide applications are made in a safe and legal manner.

The woman on the phone was pretty upset, but calmed down enough to say she had been sprayed with pesticide and wanted to file a complaint.

"Who sprayed you? … Do you know what they were spraying?"

"It was a guy on a tractor spraying the potato field across the road. I'm not sure what they were spraying but the odor was really strong and now I'm sick."

After getting a few more details from the caller Mary Jones, department investigator Mark Simmons, realized quickly that potential violations had occurred. Without delay, he headed for the incident site. Human exposure cases are the highest priority for department investigators and almost always elicit an immediate response.

AT THE INCIDENT SCENE

Simmons arrived at Mrs. Jones' house and almost four hours after the completed pesticide application. He observed and recorded that there was a steady wind ranging from 6 to 8 mph with occasional gusts over 10 mph. The winds were roughly the same force and direction as when he had left the office more than three hours earlier. Later, he asked Mrs. Jones about the wind conditions when the man was spraying. He also checked data from the nearest WSU Public Agricultural Weather System (PAWS) station, and after receiving them, the pesticide application records from the grower.

Respirator in grocery style plastic bag draped over tractor fender

After introducing himself he asked Mrs. Jones to tell him in detail what had happened and what she had observed. Mrs. Jones said that she had walked from her house to the lawn that morning as she was preparing to go running. She smelled the odor of pesticides that seemed to be coming from the potato field located about 150 feet south of her house. Mrs. Jones told Simmons:

"I became nauseated from the odor and started to get a headache as I stood outside on my lawn. I could see a tractor pulling a spray tank and spraying the potato field across the road. I thought maybe I could get him to stop spraying so I walked over to the potato field and around the edge where I could talk to him."

Simmons immediately recognized that Mrs. Jones might have inadvertently placed herself at a higher risk of exposure to the pesticide by walking to the edge of the field. He noted that she had not entered the field, but instead walked or stood near the edge on the public road right-of-way. (Later, he confirmed for himself that Mrs. Jones had not set foot in the field.)

Mrs. Jones told Simmons that she waited at the field's edge for the tractor to reach the end of the row. She observed the spray operation for three to five minutes until the tractor stopped roughly 30 feet from where she was standing. Even with the spray boom down low and close to the potato foliage, she could see the spray mist rise up and blow with the wind across the potato field, across the road and onto her property more than 200 feet away. As the operator approached, she could see he wasn't wearing much protective equipment or clothing, just a jacket, jeans, leather boots and gloves. She yelled at him and he stopped the tractor…

"Are you Mr. Smith?" Mrs. Jones asked.

"No, he's my boss," the tractor operator said. "He's not around right now. Is there something that I can help you with?"

"Yeah - your spray is blowing all the way over to my house, and making me sick!" Mrs. Jones said. "What's your name? And where's Mr. Smith?"

She got the answers she needed. Mrs. Jones, who now felt more ill, turned and walked along the roadside that ran parallel to the field. The tractor operator, Brad Doe, started spraying as she crossed the road and made her way home. Once there, her headache intensified and she began to vomit.

"How are you feeling now?" Simmons asked.

"I haven't vomited for a couple of hours, but I still feel really sick," Mrs. Jones said.

"Did he tell you what he was spraying?" Simmons asked.

"I think he said monitor or something," Mrs. Jones said.

"Monitor?" Simmons asked.

"Yeah, that's what he said," Mrs. Jones said. "Are you familiar with it?"

"It's an insecticide used on potatoes to control aphids, and it's fairly potent," Simmons said. "I'm required by law to report human exposure incidents to the Washington State Department of Health. I'll call them now and they can tell you more about Monitor. They can give you information on any type of medical attention that you might need. Are you sure the operator wasn't wearing any coveralls ... or any kind of a face mask?"

Residue covered respirator from bag on tractor

"Nope, he was only about 20 feet away from me when I talked to him," Mrs. Jones said. "I got a good look at him."

AN INVESTIGATION UNFOLDS

After calling the state Department of Health, Simmons finished questioning Mrs. Jones. He then went about the other tasks he needed to complete before contacting Jim Smith, the grower.

He took samples, photographs and measurements and then drew a diagram of the incident site. Sampling was the first priority. He didn't want to walk around the site and potentially contaminate himself with any residues. If he contaminated himself by walking into an area with high residues, such as in or near the potato field, he might skew the analysis results by contaminating samples from areas with low residues.

Simmons pulled samples furthest from the potato field first. In this way he could later determine whether there was a steady increase in sample residues as he worked his way closer to the potato field. This would help to substantiate whether or not drift had actually occurred. Mrs. Jones gave him the first sample, an article of clothing that she was wearing during the incident. He then took a series of soil, vegetation and other samples starting at Mrs. Jones' house and ending in the potato field. One of the first samples he obtained was at the location where Mrs. Jones said she was standing when she first smelled pesticides and saw the tractor spraying.

Simmons collected each sample wearing new rubber gloves. He then placed each sample in a new bag, clearly marked and then sealed. All samples were placed in a cooler with ice, and later transported back to the office and placed in a secured freezer. Later, department staff transported the samples to Yakima where they were analyzed for organophosphate residues.

Throughout the investigation, the sample "chain of custody" was carefully maintained. Each person who took possession of the samples had to sign a form, and then keep the samples in a secure location until they could be analyzed for residues. If violations had occurred and the case prompted an administrative hearing, there would be no question about the legitimacy and accuracy of the chemical analyses.

THE UNLICENSED APPLICATOR'S STORY

After finishing up at the incident site, Simmons drove to Mr. Smith's farm where he introduced himself and told the farmer about the pesticide application complaint. Mr. Doe already had told his boss about the encounter with Mrs. Jones. Mr. Simmons' visit came as no great surprise to Mr. Smith. Simmons told Mr. Smith that he would like to discuss the incident with Mr. Doe, first, and later with him, separately.

Simmons had learned early on in his career not to make snap judgments about whether the accused had actually done anything wrong. He was accustomed to hearing wide variations in testimony between those who filed a complaint and those who stood accused. It was not necessarily an exaggeration on the part of the complainant or a cover up on the part of the accused. The variations were simply a matter of different perceptions and interpretations of the events. In the end, the facts would speak for themselves.

What he heard, now, from Mr. Doe, seemed pretty consistent with Mrs. Jones description:

"Yes, I sprayed the potato field with Monitor this morning. It was a little windy... There may have been some spray blowing towards the lady's house, but I don't think it was traveling that far…While I was spraying, the lady came from across the road and waited for me at the

CONTINUED ON PAGE 12

Hands-on training boosts students' retention

Four tips to improve the quality of recertification training

Did you ever sponsor a recertification program, and afterwards wonder what, if anything, did the students learn? True, the lecturers proved knowledgeable and the information useful, but did anyone walk away understanding how to apply what they had heard?

Fig. 1. After a lecture on airblast sprayer calibration, students measured the time it takes a sprayer to travel 88 feet. They later used this data to calculate the gallons per minute (GPM) output.

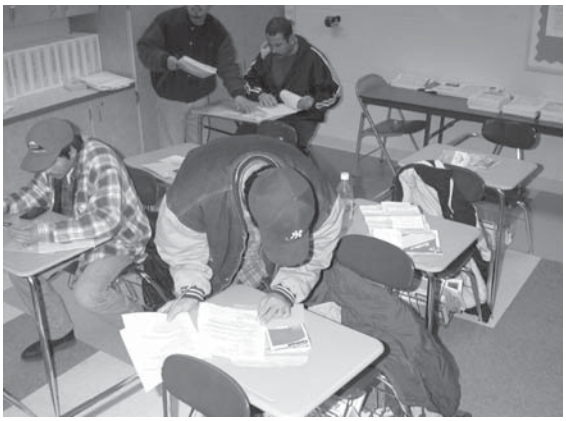


Fig. 2. Students take a quiz on pesticide labels and move through 30 stations to answer questions. Exercises that require participants to get up and move around can be especially useful for evening classes.

Fig. 3 During an on-site tour, students learn the role that ground covers play in weed suppression. The tour, led by WSDA Farmworker Education Specialist, Flor Tovar, took place at the Wenatchee Valley College experimental orchard.

Although WSDA's recent recertification survey (see page 20) indicates licensees in general are satisfied with the program, many would like to see more practical, hands-on programs. Incorporating hands-on techniques into a recertification training is not only easy, but information conveyed this way results in greater audience retention.

Adult educators estimate that when adults practice what is being taught, they retain 75 percent of the information. Compare that figure to the 20 percent retention rate among adults who listen passively to an audiovisual presentation. In addition, research indicates that learner retention is greatly enhanced by using a combination of teaching methods.

Sponsors can take advantage of this research. After a 50-to-60 minute lecture, instruct the class to do a hands-on exercise and practice what they heard during the lecture. Consider these tips for organizing the hands-on component of your training:

TIP 1 – CHOOSE THE RIGHT SUBJECT

Some subjects lend themselves to hands-on training while others do not. Insect identification and calibration (Fig 1) are two areas ideally suited for a hands-on component. For more suggestions on suitable topics, contact Flor Tovar, Farmworker Education Specialist at (509) 662-0590.

TIP 2 – ENSURE TRAINING MATERIALS MATCH AUDIENCE

If your hands-on training component uses written materials, be sure to consider the participant's literacy level and cultural background. For example, if you offer recertification training to a group of Hispanic attendees, the handouts should be written in Spanish (Fig. 2). A hands-on activity can quickly lose effectiveness if training materials are long and complicated.

TIP 3 – GET THE BEST LOCATION FOR THE TRAINING

Sponsors often overlook the importance location plays in the success of their training. Often, sponsors select sites based on budget and accessibility criteria. However, getting the best location in town may be as simple as knowing the services a community offers for free. Learn about available resources by networking with other groups (Fig. 3). Finding the best location for a training program does not require a huge foundation grant. It will require the full participation of public and private partners, a clearly defined need, and the commitment to work together.

TIP 4 – PAY ATTENTION TO CLASS SIZE

As group size grows, the quality of hands-on training decreases. In large classes, participants cannot or will not get involved. Notice the difference between Figures 4 and 5. Try to limit the hands-on component of your training to no more than 12 people. If you have a larger group, include all members in the lecture portion of the training and then divide them into smaller groups for the hands-on activities.

Without a doubt, adding a hands-on component to your recertification or on-farm training program will require more pre-planning than a traditional classroom lecture. But the extra effort is well worth the time. Participants of hands-on training programs often rate them as the best classes ever attended.

Take the "hands-on" plunge at your next training program. When students walk away from this class, they'll be leaving with skills they can put to the test.

Fig. 4. When group size is small, all participants get involved and learn more.

Fig. 5. When group size is big, participants find it more difficult to get involved.

Taking the classroom to the student

Hands-on pesticide training builds partnerships, safer workforce

Two years ago, the Washington State Department of Agriculture (WSDA) introduced a hands-on training program for pesticide handlers. In that time, 250 people have attended the interactive workshops related to the proper handling of pesticides.

"The mobile classroom concept is an effective program, one worthy of being expanded statewide," said Phil Hull, Washington Growers League, whose organization sponsored three hands-on programs for a total of 120 trainees earlier in the year. "Hands-on training gives people invaluable skills and confidence; clearly, the employer benefits from a well-trained workforce and a safe work environment."

To meet the growing demand for hands-on training, the program's key organizers, WSDA and Washington State University Cooperative Extension, plan to offer more workshops where handlers live and work. In the training, pesticide workers learn through doing. Among other activities, handlers practice how to:

- control and clean up pesticide spills
- select proper safety equipment and clothing
- mix and load pesticide
- dispose of product

In addition to pesticide safety basics, future curriculum offerings include drift management and equipment calibration. The hands-on partnership also invites employers to attend training events and observe instruction firsthand.

WHY ISN'T THERE MORE HANDS-ON TRAINING?

In Washington, pesticide-handler training is required by law (see Worker Protection Standard, Chapter 16-233 WAC, at *www.wa.gov/agr/pmd/docs/rcw/16-233.doc*). Growers who hire Spanish-speaking workers sometimes find it difficult to meet the training requirement. Growers may lack Spanish-speaking skills or the resources to provide training in their employees' native language.

WSDA and WSU Cooperative Extension hope to make on-site training programs a widespread reality. Broadening the program, however, will mean enlisting the help of additional co-sponsors and bilingual volunteers.

"We're looking for people who can make a commitment to attend a daylong train-the-trainer course and teach one or more hands-on training programs in their own or neighboring counties," said Margaret Tucker, branch manager of WSDA's Certification & Training program.

A how-to guide for growers who wish to sponsor a training event is available through the Pesticide Management Division. In addition, WSDA and WSU Grant-Adams Cooperative Extension will provide technical assistance to any grower interested in conducting on-site training.

For information, contact Flor Tovar, (509) 662-0590, *ftovar@agr.wa.gov* or Ofelio Borges, (509) 225-2625, *oborges@agr.wa.gov* or Karen Lewis, (509) 760-2263, *kmlewis @wsu.edu*.

Editor's Note:

The hands-on training sessions are organized by WSDA and WSU Cooperative Extension with instruction provided by trainers in the tree fruit industry. Previous training programs have been co-sponsored by the Wenatchee Valley College, WSDA Farmworker Education Committee and the Columbia Basin Tree Fruit Society.

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end of the field. I sprayed up to the end of the rows and when I stopped she asked me if I was Mr. Smith. I told her my name and that Jim was in one of the other fields. I really wasn't sure where Jim was at the time. After that, the lady left and I continued spraying...I was wearing a coat, glasses, leather gloves, leather boots and denim jeans."

Simmons learned that this was Brad Doe's first time spraying. Mr. Doe had watched Mr. Smith spray on numerous occasions over the last few years. He had no experience with pesticide mixing, loading or application. Mr. Doe did not have a pesticide applicator license or the handler training required under the Worker Protection Standards. What little pesticide safety training he had came from a Red Cross first aid course. Mr. Doe had not read the Monitor® 4 label, but was confident that Mr. Smith knew the correct rates, timing and safety procedures.

Simmons continued to ask Mr. Doe detailed questions about the equipment and the application. Mr. Doe's response to his question about the spray pressure caught Simmons' attention.

"You were spraying at 275 PSI?" Simmons asked

"Yes… that's the pressure Jim told me to spray at," Mr. Doe said.

"How do you know you were spraying at 275 PSI?" Simmons asked.

The question seemed unreasonable as if it would insult Mr. Doe's intelligence, but it had to be asked.

"I watched the pressure gauge." Mr. Doe said.

"Can you show me the pressure gauge and where the needle was reading while you were spraying?" Simmons asked.

They walked to the back of the tractor. Mr. Doe pointed to the pressure gauge and the mark between 250 and 300. As they continued to the rear of the spray rig and examined the boom, Simmons could see that the nozzles were the type that produced a cone pattern of spray rather than a fan pattern. Generally, cone type nozzles can be used at higher pressures than fan pattern nozzles. Even so, 275 PSI is an exceedingly high pressure.

Once he returned to his office, Simmons planned to check the manufacturer's charts and discuss the nozzle core plate and orifice size with the manufacturer.

When Simmons questioned Mr. Doe about personal protective equipment, Mr. Doe showed Simmons a respirator in a grocery-style plastic bag, draped over the tractor fender. The plastic bag was not sealed and there was extensive dust and other residue on the outside of the bag. When Mr. Doe removed the respirator from the bag it was clearly soiled and covered with residues. Potentially, wearing such a respirator can be worse than wearing no respirator at all. Not only would one's face be in direct contact with pesticide residues, the respirator seals against the face so that an operator likely would breathe and ingest residues from the inside of the respirator.

Simmons completed his interview with Mr. Doe, letting him know he might return with further questions. He thanked the operator for his time, and went on to interview Mr. Smith.

TESTIMONY FROM THE GROWER

Mr. Smith told Simmons that he was the certified applicator responsible for the application to the potato field. The farmer mixed and loaded the tank of Monitor® 4 by pouring the product directly from a $2^{1}/_{2}$-gallon jug into the tank, already partly filled with water. Using the contents' markers on the jug, Mr. Smith determined the right amount of product to pour into the tank.

Mr. Smith responded to Simmons' line of questioning, describing his actions in the following way:

"I don't have any chemical resistant boots, but I have rubber gloves, goggles, and a chemical resistant suit... I have a respirator available in case I need it when I do the mixing. ...I only use the respirator and suit on days that are windy… No, I wasn't wearing any of those items when I mixed the tank of Monitor® 4.

There's a respirator on the tractor, but I don't make the operator use it... You really wouldn't use one unless it's windy…No, there's not a thermometer or wind gauge available to the operator. I have a thermometer back at the shop... Our normal shutdown point for an application is when it's just too windy to spray.

When I helped Brad get started spraying the wind was calm, but it picked up during the application. I had to leave after I got Brad started. I was still on the farm, but not where he could reach me."

Simmons interrupted Mr. Smith and asked why he didn't stop the pesticide application when the wind picked up.

"It was not at a level where I would have stopped the spraying. I would guess that it was about 5 miles per hour or less…Yes, I've read the Monitor label. It's been a few months, but I'm generally familiar with the instructions. I've been using it for over 10 years. You get used to using the same product year after year. You just know what's safe and what's not without reading the label."

Whether or not Mr. Smith actually read the label or simply ignored the instructions, strong evidence existed to suggest the farmer failed to comply with the pesticide's application requirements.

PUTTING THE FACTS TOGETHER

While he was at Mr. Smith's farm, Simmons took copious interview notes and several photos of the spray equipment. Now back in the office, he started making a thorough review of the label. Even before the investigation, Simmons generally was familiar with the Monitor® 4 label. He knew the chemical was acutely toxic and that there were likely drift prohibitions and extensive requirements for personal protective equipment. This knowledge had helped him to formulate a lot of his interview questions.

Now, he verified the specific label statements and requirements (see figure 1 below).

Simmons also reviewed the flow charts that rated Mr. Smith's nozzles up to 300 PSI. The manufacturer confirmed that at 275 PSI the nozzle assembly would produce a very high percentage of fine and very fine droplets with well over 50 percent of the spray pattern consisting of droplets below 200 microns in diameter. Droplets below 200 microns in diameter are highly prone to drift.

It was a few weeks before the sample analysis came back from the lab. By that time Mr. Smith had submitted the pesticide application record requested by Simmons, which he had transcribed from a pocket notebook. He submitted the "record" of the Monitor® 4 application to Simmons on a piece of notebook paper, instead of the WSDA-approved form requested by Simmons. The record read in its entirety:

Aug. 20 1 pt monitor/a

The sample analysis report from the lab showed the following:

- No residues on clothing worn by Mrs. Jones
- Swab samples from the house exterior contained 13 micrograms of methamidaphos, the active ingredient in Monitor® 4
- Vegetation sample contained 2.3 parts per million methamidaphos. Sample came from Mrs. Jones' front yard where she first saw Mr. Doe spraying
- Other samples also tested positive for methamidaphos

In the end, the sample analysis results indicated that Monitor® 4 drifted to the area where Mrs. Jones was standing.

THE DEPARTMENT'S RESPONSE

Simmons had all of the information to complete his investigation, and now composed a comprehensive case report of his findings. Weather data, investigator observations, sample analysis results and key testimony all painted a

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DANGER POISON

Figure 1, Excerpt from Monitor® 4 label

DANGER: Do not inhale. Do not get on skin. Do not take internally. Fatal if swallowed. May be fatal if inhaled or absorbed through skin. Do not breathe vapor or spray mist. Do not get in eyes, on skin or on clothing.
.....
DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
.....
Do not apply within ... 100 feet by ground of an unprotected person(s)...
.....
This product must be … used in a dry-coupling mixing/loading system.

Personal Protective Equipment: …
Applicators and Other Handlers Must Wear: • Coveralls over short-sleeved shirt and short pants • Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton • Chemical-resistant footwear plus socks • Protective eyewear • Chemical-resistant headgear for overhead exposure • Chemical-resistant apron when … mixing or loading • A respirator…"

CONTINUED FROM PAGE 13

pretty clear picture.

Though the department had the authority to issue a fine to Brad Doe, it decided instead to issue the operator a Notice of Correction, hoping that this would be the last time he would endanger himself or others by applying pesticides in a negligent manner.

Jim Smith, the farmer and licensed private applicator, was responsible for the direct supervision of Mr. Doe as he applied the acutely toxic restricted-use pesticide. The department holds licensees to a higher standard and a higher degree of accountability, especially when individuals have been exposed to a pesticide. The department sent Mr. Smith a Notice of Intent to issue a civil penalty and suspend his license. The Notice of Intent is the legal notice that informed Mr. Smith of the department's intended actions and his rights to an administrative hearing in relation to that action.

WSDA hopes to make "Case Files" a regular feature of PesticideNOTES and to present case investigations with a variety of conclusions.

The following chart shows the charges and applicable penalties assessed against the fictitious Mr. Smith. Total penalty was $3,050 and a 48-day license suspension. In the actual case this story was based upon, another pesticide was mixed with the Monitor® 4 so three additional label violations were charged against the farmer. The total penalty in the actual case came to $4,700 and a 75-day license suspension.

Department Actions Against Violators

The "burden of proof" for administrative law is a "preponderance of evidence." Put another way, evidence must show "it is more likely than not" that the violation occurred. In contrast, criminal law requires a greater burden of proof -- "beyond a reasonable doubt."

Once WSDA has weighed the evidence and determined sufficient grounds for penalty, the various factors, elements and circumstances are plugged into a penalty matrix (WAC 16-228-1130) "for the fair, uniform determination of penalty…"

In Jim Smith's case the department took the following action:

No.	Violation	Penalty
1	***Drift and human exposure:*** · *Label violation* · *Operated in a faulty, careless or negligent manner* · *Applied in a manner causing injury to people* · *Failed to provide direct supervision*	*$550 fine plus 9 day license suspension*
2	***Applied within 30 feet of the complainant:*** · *Label violation* · *Applied in a manner endangering people* · *Failed to provide direct supervision*	*$550 fine plus 9 day license suspension*
3	***No PPE or dry coupling system for mixing/loading:*** · *Label violation* · *Operated in a faulty, careless or negligent manner* · *Applied in a manner endangering people*	*$550 fine plus 9 day license suspension*
4	***No PPE while applying:*** · *Label violation* · *Operated in a faulty, careless or negligent manner* · *Applied in a manner endangering people* · *Failed to provide direct supervision*	*$550 fine plus 9 day license suspension*
5	***No WPS training to employee:*** · *Worker Protection Standard*	*$550 fine plus 9 day license suspension*
6	***Inadequate Pesticide Application Records:*** ·*Missing information required by WAC 16-228-1320* ·*Not submitted on department form as requested*	*$300 fine plus 3 day license suspension*

Revised rules considered for structural pest inspectors

The Washington State Department of Agriculture (WSDA) is considering revising rules related to structural pest inspections. The proposed rules for wood destroying organisms, such as carpenter ants, would provide better guidelines for structural pest inspectors and WSDA investigators and inform homebuyers about the inspection process.

In 1992, WSDA developed the first-ever state rules that govern the inspection of structures for wood destroying organisms. Existing rules apply to inspections that take place during a real estate transaction and prior to any pest control activities. The recently written draft rules were written to clarify existing requirements, and to address changes contained in a 2000 law. The law requires inspectors carry either an errors and omissions insurance policy or surety bond.

For the past two years, an advisory group of home inspectors, pest control operators, and WSDA staff have met to revamp the 1992 rules on structural pest inspections. Their efforts have resulted in the following proposals:

- Define purpose of rules related to wood destroying organisms;
- Expand and clarify the rules' definitions section;
- Describe in detail information to be included in a written report; and,
- Establish report guidelines for describing and documenting presence of, damage by, and conditions conducive to wood destroying organisms, to include an accurate diagram of the inspected property.

To receive a copy of the proposed rules, please call (360) 902-2040. A public hearing to discuss the proposed rule will be held this summer. After the public comment period, the WSDA director will take action on the proposed rules. If adopted, the revised structural pest inspection rules would take effect 30 days after the director signs them.

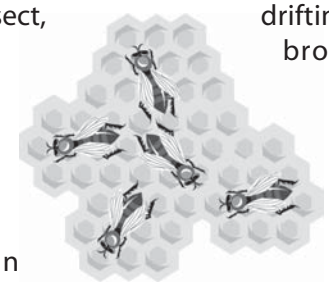
What's holding up your house? In this photo, a tree trunk poses as a structural beam. A good structural pest inspection would reveal this as a problem.

When purchasing a home, a good structural pest inspection will save the buyer from repairing damage caused by wood destroying organisms.

Insecticides used in tree fruits may be responsible for bee kills

Insecticides used to control pests in pear orchards may be responsible for recent honey bee kills reported in Yakima and Wenatchee.

The honey bee is a highly beneficial insect, essential for the pollination of tree fruits (including apples, pears, and cherries). In their efforts to control insect pests, pear growers need to be mindful that many insecticides commonly used in orchards are highly toxic to honey bees. What is more, the residues of some insecticides remain hazardous to honey bees for several days after application. Insecticides with a long residual hazard to honey bees include thiamethoxam (Actara®) and chlorpyrifos (Lorsban®).



The department reminds growers not to apply insecticides with a long residual hazard to blooming tree fruits. Growers also need to prevent spray from drifting onto blooming fruit trees or blooming broadleaf weeds. Controlling blooming broadleaf weeds prior to insecticide application is an important part of preventing bee kills in orchards.

A fact sheet on preventing bee kills in tree fruits is available on the WSDA Web site at *www.wa.gov/agr/pmd/docs/publications/2002beekillupdate.pdf*. For further information, contact Erik Johansen, Pollinator Protection Specialist at (360) 902-2078 or *ejohansen@agr.wa.gov*.

Annual review of WSDA penalties for pesticide law violations

Person and Company	Lic.	Penalty $/days	Description	Equip	Violations
David P. Holcomb	**PA**	$700 / 10	Drifted Guthion; human exposure.	**1**	**a, b, c**
Robert T. Flynn Shamrock Inspection	**CC**	$3,000 / 60	Inadequate wood destroying organism (WDO) inspection and report.	**NA**	**e, f, j, m, n**
Randy D. Newman	**PA**	$350 / 15	Drifted Lorsban 4E; human exposure.	**1**	**a, b, c, k**
Juan Torres	**PA**	$750	Drifted Guthion; human exposure.	**1**	**a, c, k, l**
Patrick E. Harrison Hieb Spraying, Inc.	**CO**	6 days	Drifted Diquat; damaged alfalfa.	**2**	**a, d**
Jorn Tronstad Valley Air Service	**CA**	$500 / 3	Drifted Amber and Amine 4 2,4-D; damaged ornamentals. Inadequate application records.	**4**	**a, b, d, g, o**
Nicole Wilkens Heritage Landscaping	**CO***	$500 / 6	Applied Roundup Pro and Tricep which damaged ornamentals.	**3**	**a, b, d**
Walter T. Scheller	**PA**	$250 / 5	Drifted Guthion; human exposure.	**1**	**a,b,c**
David F. Bender Heli-Flight Ag Service, Inc.	**CO**	$500 / 6	Unlicensed; Drifted Malathion ULV; human exposure.	**5**	**c, h**
Roger D. Gibbons	**PA**	$600 / 20	Drifted Canvas herbicide and Tilt Plus fungicide; damaged onions.	**2**	**a, d, g**
Galen T. Hieb Hieb Spraying, Inc.	**CA**	$500 / 6	Drifted Gramoxone Extra; damaged seed winter wheat.	**2**	**b, d**
William L. Lott Farm & Forest Helicopter Service	**CO**	$500 / 4	Drifted Thiodan onto horse pasture. Over-sprayed Bravo onto maintenance building and passing vehicle.	**5**	**a, b**
Joe H. Parker Affordable Pest Control	**CA**	$4,050 / 47	Inadequate WDO inspection and report on house in Tacoma.	**NA**	**j, e, f, n**
David E. Twitchell Pests or Us, Inc.	**CA**	$700 / 10	Dumped Trifluralin rinsate onto road shoulder.	**3**	**a, b, c**
Jason M. Zaccaria TruGreen Chemlawn	**CO**	5 days	Over-sprayed Diazinon 50 W and Hexygon onto organic garden.	**3**	**b**
Joe Herrin	**PA**	$250 / 3	Drifted Weedmaster; damaged grapes.	**2**	**b, d**
Stephen F. Simmons Farm & Forest Helicopter Service	**CO**	$500 / 5	Drifted Transline, Arsenal & Rodeo into water. Applied Weedar 64 at wind speeds higher than labeled.	**5**	**a**
Joe C. Grentz, Jr.	**PA**	$500 / 15	Drifted Lorsban 4E, Endosulfan 3EC, Asana XL, Kocide; human exposure.	**1**	**a, b, c**
James H. O'Brien O'Brien Pest Inspection Service	**CC**	$1,500 / 10	Inadequate WDO inspection and report on house in University Place.	**NA**	**e, f, i**

Person and Company	Lic.	Penalty $/days	Description	Equip	Violations
Thomas E. Archer Archer Aviation, Inc.	**CA**	$1,800	Drifted Roundup Ultra; damaged winter wheat.	**5**	**a, d**
Joe C. Grentz, Sr.	**PA**	$250 / 10	Application of Tordon along property line damaged neighbor's trees.	**3**	**a, b, c**
Jeremiah D. Smith TruGreen Chemlawn	**CO***	$100 + 1095	Insecticide mix contaminated with herbicide killed ornamentals. Inadequate application records.	**3**	**a, d, g**
Damon M. Thompson	**PA***	$3,500	Applied Vapam HL over mature apple trees. Vapam moved off-target exposing people and damaging a neighboring orchard.	**6**	**a,b,c,d**
L. Boyd Scroggins	**PA***	$3,300 / 15	Unlicensed applications of Guthion. Drifted onto schoolyard. False statements to Dept. investigator. Falsified invoices, inadequate application records.	**1**	**a, b, c, g, h, i, j**
Rick Heintz	**PCA**	$750 / 10	Unlicensed application of Weed Blast Residual Weed Control (a RUP) over-sprayed, killing trees.	**3**	**a, b, d, h**
Steven H. Baughman	**PA**	$300 / 6	Drifted Chlorpyrifos onto neighbor's property.	**1**	**a, b, g**
Francisco Zarate	**PA**	$900 / 14	Drifted Lime Sulfur; human exposure.	**1**	**a, b, c**
Sherman D. Young	**PA**	$900 / 21	Drifted Guthion; human exposure.	**1**	**a, b, c, d, g**
Clifton A. Vannoy General Spray Service	**CO***	$1,100	Applied Krovar I DF to residential landscape; killed ornamentals.	**3**	**a, b, d**
Total Penalties: $28,550 and 1,407 days of license suspension					

Licenses: **PA** (Private Applicator) **CA** (Commercial Applicator) **CC** (Commercial Consultant) **PCA** (Private-Commercial Applicator) **CO** (Commercial Operator) * **Formerly Licensed**

Equipment: **1** = Airblast **2** = Ground boom **3** = Ground (other) **4** = Fixed-wing air **5** = Helicopter **6** = Chemigation

Violations:

a. Contrary and inconsistent with the label (RCW 15.58.150(2)(c) and WAC 16-228-1500(1)(b))
b. Operated in faulty, careless or negligent manner (RCW 17.21.150(4) and WAC 16-228-1500(1)(e))
c. Applied pesticide in a manner endangering humans and their environment (WAC 16-228-1200(1))
d. Applied pesticide in a manner causing damage or injury to humans or desirable plants (WAC 16-228-1220(2))
e. Failing to make inspection, statement or report in violation of WDO rules (WAC 16-228-1500(1)(u))
f. Failing to comply with criteria for structural pest inspectors (RCW 15.58.150(2)(e))
g. Maintaining inadequate pesticide application records (RCW 17.21.150(6) and/or WAC 16-228-1500(1)(g))
h. Applying pesticide without a proper license (various).
i. Making false, misleading or erroneous statements in connection with a department investigation (RCW 17.21.150(13) and WAC 16-228-1500(1)(p))
j. Making false or fraudulent records, invoices or reports (RCW 17.21.150(7) and WAC 16-228-1500(1)(h))
k. Aiding and abetting to evade provisions of this chapter (RCW 17.21.150(12))
l. Caused application of pesticide without having certified applicator in direct supervision (WAC 16-228-1500(1)(i))
m. Failed to make a thorough WDO inspection (WAC 16-228-2000(1))
n. Failed to properly report WDO related conditions present during inspection (WAC 16-228-2000(3))
o. Applying pesticide during weather conditions such that physical drift or volatilization caused damage to humans or desirable plants (WAC 16-228-1220(5))

Standards for metals in fertilizer appear protective

For a copy of the report summarizing the WSU study, and other information on metals in fertilizer, visit the WSDA Web site at www.wa.gov/agr and click on ***Metals In Fertilizer****.*

A 1998 Washington law designed to limit the amount of nine different metals found in commercial fertilizers sold in the state appears to be bolstering the safety of consumers and the environment alike.

The conclusion is based on a recently released study conducted by Washington State University (WSU) in cooperation with the departments of Agriculture, Health and Ecology. The three-year study, conducted under field and greenhouse conditions in Puyallup and Prosser, assessed the potential of plants such as wheat, potato, lettuce and cucumber to absorb, or take up, trace metals from fertilizers. Results from the study indicate that while there was some accumulation of cadmium in plants, arsenic and lead accumulation in plants was not of concern. Future studies are expected to define the degree to which cadmium accumulates in plants. At present, the cadmium standards appear to be protective.

Although study results do not indicate the need for action at this time, the state agencies involved hope to see more studies conducted in the future. To that end, the agencies have made the following recommendations:

- Extend the study under the auspices of WSU for at least two years and focus on developing improved ways to predict plant uptake of cadmium;
- Develop a long-term program to measure arsenic, cadmium, and lead levels in soil as a means to preventing future problems; and,
- Initiate a regional approach to addressing metals standards and labeling.

Agriculture and Ecology staff members continue to discuss ways to carry out a long-term soil-monitoring program. In addition, regulatory and fertilizer industry representatives are discussing the possibility of establishing national labeling standards to provide information about the levels of metals in fertilizers.

Lindane's use as head lice treatment not advised

Trace amounts of lindane, a pesticide active ingredient primarily used to control head lice in children, has been detected in treated water from sewage treatment plants in Washington state.

Lindane is found in prescription shampoos and as a result residue is washed down household drains. Unfortunately, the sewage treatment process does not remove lindane from the treated water. While detection levels are below drinking water levels of concern, residues may have an ecological effect.

The Food and Drug Administration regulates lindane as a prescription medication instead of a pesticide. The state Department of Health (DOH) no longer recommends lindane for lice control. Newer and more effective products with less environmental consequences are available. For more information on how to control head lice, visit the DOH Web site at *www.doh.wa.gov/Publicat/PaperPubs/lice.html*.

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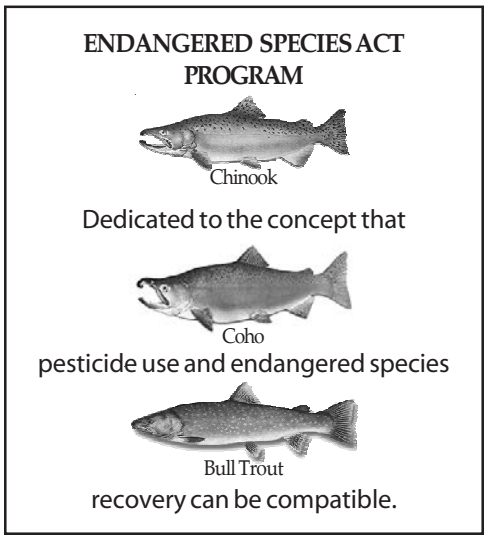
Agriculture plays role in protecting state's salmon

The agency's new Endangered Species Program intends to benefit Washington's threatened and endangered salmon and help pesticide applicators reduce their potential for future legal and political challenges.

For the next several years, Washington State Department of Agriculture (WSDA) program staff will evaluate the presence and effects of pesticide residues in salmon-bearing streams. Their goal is to ensure that pesticide use in Washington is compatible with salmon recovery efforts. To that end, WSDA together with other agencies, such as Ecology and the United States Geological Survey, plan to collect and analyze water samples and learn which pesticides are present in salmon habitat. All registered pesticides, roughly 900, will be evaluated for their potential effects to salmon.



If pesticide residues in water samples are found to harm threatened and endangered salmon, WSDA will use its regulatory authority to modify or restrict the use of the products in question. Use restrictions and/or mitigation measures will be designed to prevent pesticides from getting into salmon-bearing streams. Reducing the flow of pesticides into Washington waterways lessens salmon exposure to pesticides, and ultimately, greatly lowers the risk that pesticides may pose to the state's endangered salmon.

To learn more about the process that will be used to evaluate the presence and effects of pesticide residues in salmon-bearing streams, please review the Washington State Pesticide/ESA Task Force* report, ***A Process for Evaluating Pesticides in Washington State Surface Waters for Potential Impacts to Salmonids***, (WSDA, 2001). The report is available on the agency Web site at *www.wa.gov/agr/pmd/pesticides/esa.htm*.

For more information on WSDA's Endangered Species program and its intended benefits, contact Bridget Moran, Endangered Species Coordinator, (360) 902-1936 or *bmoran@agr.wa.gov.*

**The Washington State Pesticide/ESA Task Force is an interagency technical and policy team composed of scientists and managers from resource and regulatory agencies and includes: NMFS-Northwest Region; U.S. Fish & Wildlife Service - Western Washington Office; U.S. Environmental Protection Agency-Region 10; the Washington State Departments of Agriculture, Natural Resources, Ecology and Fish & Wildlife. Scientists from the U.S. Geological Survey and Washington State University contribute to the task force in an advisory capacity.*

Improper pesticide container disposal equally harmful to air and water

For decades, Americans have used chemical products to control pests in the orchard, increase agricultural yields, or simply to enhance the beauty of their yards. The grower, pesticide applicator, and homeowner must all be aware of the proper disposal of chemicals.

Until recently, the focus for the legal disposal of pesticides and pesticide containers has been on the protection of surface and ground water, soils and human health. But chemical disposal by burning is as damaging to the air as improper pesticide disposal is to the water. Metal, plastic and paper containers that once contained pesticide are illegal to burn outdoors. When burned, containers and their chemical residues release into the air such toxins as benzene, toluene, dioxins and nitrogen oxides – all highly toxic substances.

The industry standard for disposal of liquid pesticide containers is to rinse the container three times, empty the residue into the application unit, and then apply the mixture. When working with pesticides, always follow the directions, warnings and guidelines on the label.

To learn more about proper disposal and recycling of containers, review the Ecology publication, ***Pesticide Container Cleaning and Disposal***, at *www.ecy.wa.gov/biblio/0104024.html.*

For more information, contact the Department of Ecology's Central Regional Office in Yakima, (509) 575-2490 or the Eastern Regional Office in Spokane, (509) 456-2926.

Survey confirms value of recertification program

A survey of the Washington State Department of Agriculture's (WSDA) pesticide license recertification program confirmed that most licensees value the continuing education program. The survey also provided evidence that many licensees remain confused about the availability of courses and other aspects of the program.

In December, the Washington Agricultural Statistics Service polled a representative, statewide sample of Washington licensees. Survey respondents answered multiple-choice questions and were given the opportunity to provide additional comments, an option many exercised.

In the first question of the survey, respondents were asked to identify who sponsored the recertification courses they attended. The chart in figure 1 details their responses.

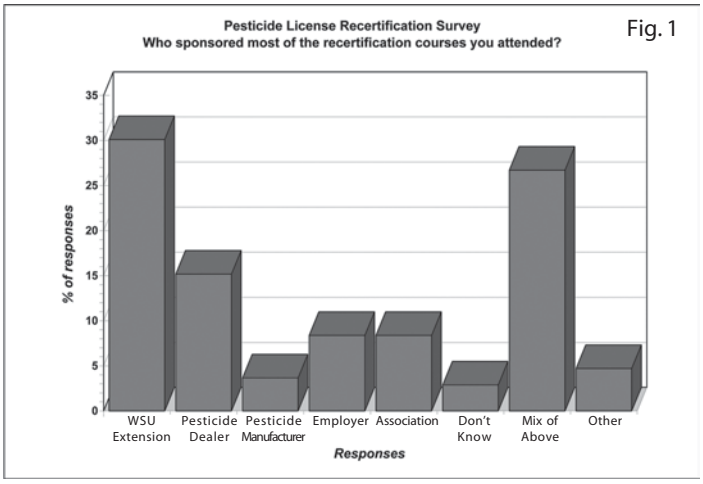


Fig. 1

The remaining six questions asked respondents to rate their satisfaction with various aspects of the program. The chart in figure 2 details the mean responses for these questions.

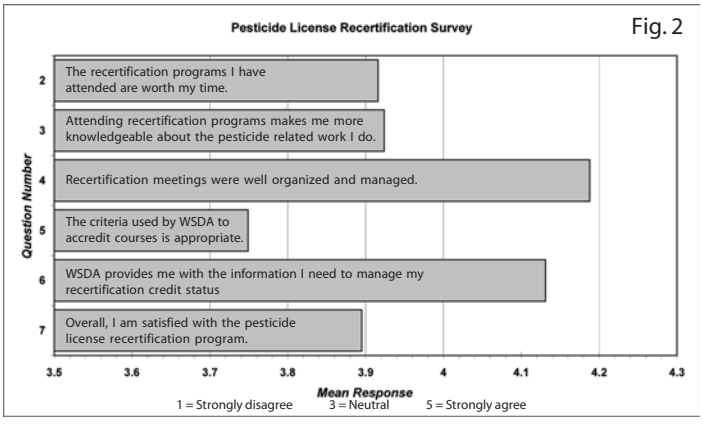


Fig. 2

As with most surveys, this one revealed that what one person loves, another dislikes.

Here is a sampling of the comments received:

Enjoy the classes!

Program is a waste of time!

They make the meetings too far away and too long.

Love to travel to all the meetings.

Most classes do not apply. Would like to hear more from the pesticide manufacturers.

It is only a sales pitch for the chemical companies.

Most of it is based on orchards that spray weeds, so it doesn't help a lot.

I would like to see more sessions that involve forestry and agriculture. Too much tailored to landscapers.

The comments also revealed that licensees have misconceptions concerning the recertification program. Do you? Consider the following statements, then answer true or false.

1. WSDA is responsible for setting up all the courses, including getting speakers and telling them what to discuss.
2. Private companies cannot sponsor recertification courses.
3. A listing of open recertification courses is available on the WSDA Web site at *www.wa.gov/agr/pmd/licensing/recert_courses.htm*.
4. WSDA provides an annual course credit report to current license holders.
5. I must attend classes every year to maintain my license.

Now, review the answers to the true-false questions:

1. False. WSDA rarely sponsors recertification programs. For the most part, WSDA reviews course agendas, assigns credits and maintains a database of credits accumulated by licensees. Outside sponsors, including Washington State University, pesticide dealers, user associations and employers conduct more than 800 recertification courses each year. Licensees should actively express concerns about course content to sponsors. If you like or don't like the topics, let your sponsor know.

2. False. Anyone can sponsor a recertification course. To do so, they must complete a WSDA Course Accreditation Request Form (available at *www.wa.gov/agr/pmd/docs/forms/4286.pdf* or by calling 360- 902-2023) and submit a copy of the course agenda at least three weeks prior to the start of

the course. Courses must have a minimum of 100 minutes of pest control related topics and sponsors must allow attendance by a WSDA monitor.

3. **True**. WSDA maintains a listing of open recertification courses that is updated on a regular basis.

4. **True**. All current licensees receive an annual recertification credit report along with their license renewal packet.

5. **False**. In order to meet the course credit requirement – 20 credits for private applicators, 40 for other license types – you must attend courses in at least three years of your five-year cycle. This method requires that you increase the number of credit hours you take in a given year to compensate for the two years you are not taking classes. Be mindful that there are credit maximums for each year: eight for private applicators and 15 for all others. To obtain the 20 credits required for private applicator recertification, possible three-year-credit combinations include 8-8-4 and 5-8-7. Credit combinations for those who must earn 40 credits include 15-15-10 and 12-13-15.

The comments' section of the survey offered invaluable information to sponsors.

Provide more hands-on, Spanish, evening and summer classes.

Programs need to be broader or more specific depending on your audience.

There needs to be more training geared towards home inspectors.

The meeting notices need to be sent out earlier.

Make presentations more entertaining. Some are very dry.

The written comments reveal that pesticide licensees will leave recertification courses with a greater feeling of satisfaction if sponsors take the time to learn their audience's needs, provide relevant content and offer conveniently located sites and times.

The recertification survey with complete results is available at *www.wa.gov/agr/pmd* or by contacting Margaret Tucker at *mtucker@agr.wa.gov* or (360) 902-2015.

Vapam use over mature apple trees illegal

In an effort to kill established trees prior to replanting an orchard, some growers have used chemigation equipment to apply Vapam HL over the top of the trees. Both WSDA and the Environmental Protection Agency have determined that this is an illegal use. Applying Vapam over mature trees is considered a violation for applying contrary to and inconsistent with the label.

Pesticide users urged to take better security precautions

Two critical ways to improve pesticide security are dedicating a secure storage area and taking inventory of product, according to Joe Hoffman, manager of WSDA's Waste Pesticide Disposal Program. Without an inventory, which is required by law, it is difficult to determine if anything is missing. Another security concern is the all too common practice of leaving unsecured pesticides at the mix/load site while performing an application.

Take advantage of the readily available information about how to adopt safer practices. Web sites that discuss the proper storage and use of pesticides abound on the Internet:

- Environmental Protection Agency: *www.epa.gov/pesticides/citizens/pest_secu_alert.htm*
- Washington State University: *www.aenews.wsu.edu/Nov01AENews/Nov01AENews.htm*
- Penn State University: *www.pested.psu.edu/spsecurity.html*
- Clemson University: *entweb.clemson.edu/pesticid/issues/security.htm*

If you are interested in disposing of unusable pesticides, contact the Waste Pesticide Program toll-free at (877) 301-4555 or *wastepesticide@agr.wa.gov*. A schedule of upcoming collection events is on page 7 of this newsletter and is also posted on the WSDA Web site, at *www.wa.gov/agr/pmd/pesticides/collection.htm*.

Pesticide-residue violations decline steadily

The Washington State Department of Agriculture (WSDA), together with the U.S. Food and Drug Administration, have analyzed more than 2,500 food samples for pesticide residue since 1996. In that time, only 21 samples were shown to violate federal standards of contamination. Although a majority of samples between 1996 and 2001 did not violate the Environmental Protection Agency's legal limit for residue, many did contain detectable amounts of pesticide. Food samples screened included fruits, vegetables, cereals, fruit juice, flour and oysters.

photo: Greg Haubrich

Chris Wiseman and Jaime Villa in the Washington State Department of Agriculture Food Chemistry Lab

"In eight years' time, we've seen a huge reduction in the number of food samples that violate the EPA pesticide residue standards," said Claudia Coles, WSDA's Food Safety program manager. "Fewer violations appear to be the result of more field education and training in the proper application of pesticides."

Coles referred to the fact that certified applicators are required to participate in continuing education activities to maintain their pesticide license. Recertification topics approved by the department include pesticide drift management, reading and understanding a label, equipment calibration, and record keeping.

The Food Safety Program has the responsibility of sampling and analyzing foods produced domestically for pesticide residues. The department plays a key role in the enforcement of EPA tolerances - the maximum amount of a residue permitted in or on a food. Starting in 1991, the agency began working with the FDA's Seattle District Office to screen foods.

"When we collect domestic samples, we gather food items - cranberries, hay, grapes, apples - as close as possible to the point of production," Coles said. "The emphasis is on the raw agricultural product that, in turn, is analyzed in its unwashed, whole (unpeeled) state.

If illegal residues - pesticide amounts measured at higher than EPA tolerance levels - are found in domestic samples, WSDA can embargo product and withhold it from being sold and distributed," Coles said.

The power to embargo food products is authorized by state law (RCW 69.04). WSDA may detain any food, drug, device or cosmetic that the department has found or has probable cause to believe is contaminated or misbranded. It is illegal to remove or dispose of any embargoed article without the WSDA's permission. Departmental dispositions sometimes result in diverting the product from its original intent (human consumption) or destroying the product. In some cases, embargoed product may be released once it's been cleaned by heating or washing.

When violations do occur, the Food Safety Program shares such incidents with the Pesticide Management Division. A violation may indicate the failure of a grower, a processing plant, or even a freight company to comply with pesticide application laws.

ROUTINE SURVEILLANCE PROGRAM - ANALYTICAL RESULTS

Table 1 summarizes the results of food sample analyses for pesticides under the FDA Surveillance Program. FDA laboratory consolidation and a low number of violative samples in previous years resulted in a drop in the number of 2001 samples taken.

REGULATORY ACTIVITIES - ANALYTICAL RESULTS

WSDA conducted pesticide residue testing as part of its regulatory activities, including two cases that involved violative residues. Of 36 regulatory samples taken in 2001, eight samples related to two cases had residue violations. One of these cases involved the herbicide fluroxypyr. In this case, a field of timothy hay was sprayed with fluroxypyr, a pesticide used to control weeds. Fluroxypyr is approved for use on oat, barley and wheat hays, but not timothy hay. The Pesticide Management Division sent the case to the Food Safety Program as there were adjacent food crops. Two

samples of timothy hay were positive for the pesticide.

Staff tested adjacent wine grape and apple orchards for traces of the pesticide. Initial tests turned up negative. Subsequent tests, taken three months later, revealed that wine grapes absorbed the pesticide systemically and concentrated the chemical in the fruit. An embargo was placed on 17.5 acres of wine grapes. The apples tested negative. Isolation of the spray drift pattern in association with further field sampling and testing of the wine grapes minimized the loss of the wine grape harvest.

Editor's Note:
The WSDA Food Safety Program has joint responsibility with the agency's Pesticide Management Division in the area of pesticide regulation. The Food Safety Program samples foods produced domestically and analyzes foods for pesticide residues; the Pesticide Management Program exercises a regulatory role in the use or misuse, transport, and storage of pesticides as defined by the Federal Insecticide, Fungicide and Rodenticide Act. EPA is responsible for establishing tolerances of a pesticide that may lead to unacceptable and unhealthful residues in food.

Table 1. Summary: Results of Food Sample Analyses for Pesticides Routine Surveillance Program, 1997-2001

Reporting Period*	Total Number of Analyses	Negative Samples	Samples with Measurable Levels		Samples with Violative Levels	
		Total	*Total*	*%*	*Total*	*%*
Dec. 1996-Dec. 1997 (13 mo.)	861	305	556	65%	8	0.9%
Dec. 1997-Dec. 1998 (13 mo.)	511	156	355	69%	4	0.8%
*Jan. 1999-Dec. 1999 (12 mo.)	504	281	223	44%	5	1.0%
*Jan. 2000 - Dec. 2000 (12 mo.)	500	181	319	64%	4	0.8%
*Jan. 2001 - Dec. 2001 (12 mo.)	164	69	95	58%	0	0.0%

* Reporting periods in this summary differ due to a recent change in the deadline for this report.

EPA Funds *Pesticide*NOTES

The EPA's Region 10 office in Seattle has recognized the value of *Pesticide*NOTES by once again providing funding for its development and distribution. We gratefully acknowledge this support. WSDA and EPA join in hoping that this publication provides you with valuable information.

Scientists take steps to thwart Citrus Longhorned Beetle

Quarantine, tree removal is a matter of saving Washington trees

by Clinton Campbell,
Pest Program Manager

The term "invasive species" is often used to call attention to an exotic organism that has taken over a habitat. Fortunately, there is a brief period of time between the appearance of any invasive species and an actual large-scale infestation. In the case of the Citrus Longhorned Beetle (the beetle), Washington is in just such a phase. Starting last summer, scientists at the Washington State Department of Agriculture (WSDA) began taking assertive steps to stop the alien insect in its tracks, and prevent a full-scale invasion in Washington.

Photo: Art Wagner

Last August, the beetle arrived in the Evergreen state as the result of two separate nurseries having imported maple trees from Korea. At one of the nurseries in Tukwila (King County) several beetles escaped into the nearby forested area. Prior to this, the United States only knew of one other introduction of the beetle that occurred in a Georgia greenhouse in 1999. The beetles were contained and destroyed.

Despite its name, the Citrus Longhorned Beetle is not limited to orange and lemon trees. Like its cousin, the Asian Longhorned Beetle, the pest bores into and kills hardwood trees. The Citrus Longhorned Beetle destroys a variety of species, including shade and streamside trees as well as fruit trees, such as apple and pear. With this in mind, measures must be taken to prevent the spread of the beetle:

- **Surveys of nest trees.** WSDA has been surveying host trees within the quarantine area in Tukwila. Scientists are searching for possible evidence of beetle tree attacks. To date, no signs of the beetle's handiwork, including large holes in trees, have been detected.

- **Maintaining the quarantine.** Since November 2001, a half-mile quarantine area has been in place to prevent the human-aided spread of the beetle.

- **Halting disposal of specific yard waste.** Homeowners have been advised to not remove certain live plants and various wooden articles from the quarantine area. Certain live trees may not be moved from the quarantine area for transplant. For more details, see the WSDA Web page, *www.wa.gov/agr/CitrusLHBeetle.htm*.

- **Destroying host trees and adult beetles.** Once a tree is infested, the only way to stop the beetle is to destroy the tree. By early July 2002, WSDA expects to have remedial measures underway, such as preventive removal of host trees from a core area (the place where beetles were first spotted last summer). The injection of trees or the root zones with a systemic insecticide is a complementary preventative approach.

By taking all four steps, WSDA scientists hope to find and kill adult beetles that feed on hardwood trees before they migrate to other trees and lay eggs. The overarching goal is to prevent an infestation in Washington along the lines of what occurred in New York and Chicago in 1996 and 1998, respectively. In the two cities combined, officials have been forced to remove more than 8,000 trees damaged by the closely related Asian Longhorned Beetle.

WSDA entomologists want to prevent the destruction of thousands of trees in Washington. A "Beetle Watch" has been set up to encourage people to report sightings of the Citrus Longhorned Beetle. Washington is home to at least a couple of native longhorned beetles that may be mistaken for the foreign intruder. The WSDA Web page posts photos of these look-alikes. If you capture or photograph a suspect beetle (compare to photo above), contact WSDA at our hotline, (800) 443-6684, or write *clhb@agr.wa.gov*.

CROSS WORD PUZZLE SOLUTION FROM PAGE 5

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How to prevent "mad cow" disease in the United States

"Mad cow" disease.

It's a phrase that inspires fear among cattle farmers and others working in agricultural industries.

In 1986, the disease first appeared in Great Britain. Since that time, more than 200,000 cattle in Europe have developed the deadly brain disease, forcing farmers to destroy the animals. Fortunately for American farmers, the United States has never documented a single case of "mad cow" disease, technically known as Bovine Spongiform Encephalopathy. If "mad cow" disease did occur in the United States, it would financially devastate agricultural industries.

The Washington State Department of Agriculture (WSDA) is doing its part to ensure "mad cow" disease never gains a foothold in Washington. Since 1998, the WSDA Feed Program has emphasized inspection of feed mills to stop the possible spread of this disease, and ensure compliance with the federal feed rule. Scientists theorize that animals eating certain animal protein products made from cattle with mad cow is the major route by which the disease is spread.

Farmers who raise ruminants, such as cattle, buffalo, sheep or goats, should take the following steps to prevent the possible occurrence of Bovine Spongiform Encephalopathy:

1) Do not feed ruminants products labeled with the caution statement:
   "Do not feed to cattle or other ruminants."
2) Do not feed pet food to ruminants as pet food often contains prohibited material. Note: Pet food is exempt from the labeling requirement in item 1.
3) Keep copies of **ALL** purchase invoices for **ALL** feeds received that contain **animal protein.** Note: All animal feed is included, *except* pet food *fed* to pets.
4) Keep copies of *labels* for **ALL** feeds received that contain **animal protein** products. File one label to represent each different lot of feed on an invoice, and file labels for each new invoice. Note: All animal feed containing animal proteins is included, *except* pet food *fed* to pets.

The federal feed rule is designed to prevent the occurrence and spread of "mad cow" disease by prohibiting certain mammalian proteins from being fed to cattle, buffalo, sheep, goats, and the like. In the U.S., feed establishments are inspected at least once a year to ensure their compliance with the feed rule. Inspections have been extended to include original feed suppliers and nutritional supplements. In the past, when a farmer or feed supplier is found to be out of compliance with the federal feed rule, it's usually been a matter of incomplete record keeping.

In 2001, WSDA created a new two-year position devoted to raising awareness about the feed rule among the ruminant feeders and livestock producers. WSDA has participated in numerous trade association meetings, agricultural fairs and expositions, small group gatherings, and visited individual farms to provide "mad cow" disease prevention education.

PREVENTION: A THREE-PRONGED APPROACH

Since first identified in Great Britain 16 years ago, "mad cow" disease has been reported in the native cattle of 18 other European countries and Japan. The disease migrates from nation to nation through importation of infected feed.

Based on the European experience, and a study by the Harvard Center for Risk Analysis, there are two key ways to stop the occurrence and spread of Bovine Spongiform Encephalopathy in the U.S.:

- Prevent importation of potentially infective material and animals; and,
- Assure compliance with the Food and Drug Administration's feed ban related to "mad cow" disease.

Surveillance figures as the third prong to preventing the occurrence and spread of "mad cow" disease. If "mad cow" disease does occur in American cattle, the U.S. Department of Agriculture (USDA) wants to detect it quickly, before a handful of cases become an epidemic. Since 1990, the USDA has tested over 22,900 samples of brain tissue from animals at high-risk for Bovine Spongiform Encephalopathy. None have tested postive for the disease in the U.S.

In Washington state, WSDA's Feed Program is a vital part of "mad cow" disease prevention strategy. The state program goes beyond the minimum number of inspections set up by the FDA. As a result, the WSDA feed program places the agency well ahead of criticisms leveled at federal agencies cited in the recent report by the investigative arm of the U.S. Congress, the General Accounting Office (GAO).

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For more information on the prevention of "mad cow" disease, visit *www.wa.gov/agr/pmd* or contact Neil Lanning, WSDA Feed Specialist, (360) 902-2052, *nlanning@agr.wa.gov*.

The GAO report to Congress is entitled, ***Mad Cow Disease, Improvements in Animal Feed Ban and Other Regulatory Areas Would Strengthen U.S. Prevention Efforts***. The report gives a brief overview of Bovine Spongiform Encephalopathy and its history of occurrence as well as current information on its link to the human variant, called variant Creutzfeldt Jakob Disease (vCJD). This variant disease is believed to occur when a person consumes beef that has been contaminated by the brain tissue of a cow with "mad cow."

The GAO report emphasizes there are no known cases of the disease in the U.S. Yet, it also raises significant concerns about the adequacy of current domestic regulations. At home and abroad, there remains a limited understanding of the disease and how it is spread. In fact, new cases of "mad cow" disease are occurring in countries previously thought to be disease-free, the report states. To learn more about the GAO 's 63-page report and its recommendations, visit *www.gao.gov/cgi-bin/getrpt?GAO-02-183*.

The GAO report also references a study conducted by the Harvard Center for Risk Analysis, which is available at *www.fda.gov/oc/bse/harvard_study.html*. The Harvard study concludes that the United State's risk for "mad cow" disease remains low.

Taking the mystery out of I.D.'ing restricted use pesticides

For more information on pesticide licensing, contact WSDA toll-free at (877) 301-4555. To review the General Pesticide Rules, or any of the other major regulations administered by the Pesticide Management Division, please visit *www.wa.gov/agr/pmd/etc/laws.htm*. In addition, Washington State University features the state's list of RUPs on their Pesticide Notification Network Web site, *www.pnn.wsu.edu*.

How do I identify a restricted use pesticide? It's a question that pesticide staff frequently field from dealers and applicators.

Knowing the difference between a restricted use pesticide (RUP) and general use products is critical. RUPs are not only more hazardous to the applicator and/or environment, but they require a license for sale and use.

Pesticides designated as restricted use products by the federal government are also RUPs in Washington state. The front panel of the pesticide label makes identification of a federally restricted product easy. The label features boxed text stating that the pesticide is restricted to use by certified applicators only. However, pesticides designated only as state restricted use are harder to identify. These labels lack clear language identifying them as RUPs. To determine the product's restricted use status, a dealer must review the General Pesticide Rules (WAC 16-228).

AS A QUICK GUIDE, THE STATE RULE DESIGNATES FIVE RESTRICTED USE PESTICIDE CATEGORIES:

1. Pesticides labeled for use on aquatic sites, including spray adjuvants, (WAC 16-228-1231)
2. Pesticides containing clopyralid and labeled for use on lawns and turf, including golf courses. In the future, it is possible that additional sites (physical locations) will be restricted. (WAC 16-228-1235)

   Note: An exception to the rules above provide that pesticides labeled for restricted and non-restricted uses may be distributed to an unlicensed applicator if records show that the product will not be used on a restricted site.

3. Pesticides that may leach into groundwater (WAC 16-228-1231), including:

Atrazine	DCPA	Diuron	Metolachlor	Picloram	Simazine
Bromacil	Disulfoton	Hexazinone	Metribuzin	Prometon	Tebuthiuron

   Note: The rule is not applicable to pesticides labeled and intended for home and garden use only.

4. Phenoxy hormone-type herbicides (including 2,4-D and MCPA) and Dicamba: All liquid formulations distributed in quantities larger than one gallon and all dry formulations of 2,4-D used in Eastern Washington (WAC 16-228-1231)
5. Strychnine and its salts (WAC 16-228-1231)

Statewide toll-free phone number: 1-877-301-4555

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State agencies investigated 500 pesticide-related incidents

Recently released PIRT report summarizes 1999 data, shows decline in incidents

The state's three primary agencies in charge of investigating pesticide incidents in Washington collectively reported 500 investigations in 1999, according to the recent PIRT report. The annual summary compiled by the Pesticide Incident Reporting and Tracking Review Panel (PIRT), outlines 1999 pesticide exposures and summarizes incidents going back five years.

In 1999, the most recent year for which incident data is available, the state Department of Agriculture investigated 192 complaints, the state Department of Health responded to 271 incidents and Labor and Industries made 37 inspections. The recent report also notes that pesticide incidents have declined steadily since 1997. For all three investigating agencies, pesticide incidents and exposures between 1995 and 1999 totaled half as many reported during the early 1990s.

When incidents do occur, few are the result of an unavoidable accident. Inadequate or missing protective equipment figure as main culprits. A careful review of 1999 and previous years' data show that most exposures may be prevented if individuals follow label instructions, wear proper equipment and pay attention to the direction of the wind. In the end, increased training appears to pay dividends by reducing the numbers and severity of pesticide exposure.

Drift appears as the major factor in pesticide exposure complaints, followed by human exposure and mishandling. Most of the agricultural exposures occurred in the tree fruit industry among Hispanic males, ages 25 to 35.

To review these and other findings of the recent PIRT report, visit the state Department of Health's Web site at *www.doh.wa.gov/Publicat/publications.html*.

Editor's Note: *PIRT includes representatives from six state agencies. It was formed to ensure that state agencies responsible for pesticide regulation coordinate their incident investigations, reporting, and education activities in a timely manner to protect workers and the public from pesticide misuse.*

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